IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

ARLINGTON TECHNOLOGIES LLC,	§ §	
,	§	
Plaintiff,	§	
	§	JURY TRIAL DEMANDED
v.	§	
	§	
COMCAST CABLE	§	C.A. NO. 2:24-cv-00768-JRG-RSP
COMMUNICATIONS, LLC, D/B/A	§	
XFINITY; AND COMCAST CABLE	§	
COMMUNICATIONS MANAGEMENT,	§	
LLC,	§	
	§	
Defendants.	§	
	§	

PLAINTIFF'S FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Arlington Technologies LLC ("ATL") files this First Amended Complaint against Defendants Comcast Cable Communications, LLC d/b/a Xfinity, and Comcast Cable Communications Management, LLC, (collectively "Defendant" or "Comcast") for infringement of U.S. Patent No. 7,193,986 (the "'986 patent"), U.S. Patent No. 7,324,491 (the "'491 patent"), U.S. Patent No. 7,711,101 (the "'101 patent"), and U.S. Patent No. 9,705,940 (the "'940 patent"), collectively, the "Asserted Patents."

THE PARTIES

- 1. Arlington Technologies LLC is a Texas limited liability company, with a principal place of business in Allen, TX.
- 2. Defendant Comcast Cable Communications, LLC is a limited liability company organized and existing under the laws of the State of Delaware that maintains regular and established places of business throughout Texas, for example, at its facilities in this District, such as 135 Houston St., Lewisville Texas, 75057; 1300 Coit Road, Plano Texas 75075; 3033 W.

President George Bush Hwy, Plano Texas 75075; 900 Venture Drive, Allen Texas 75013; and 8537 Labelle Road, Beaumont Texas, 77705. Comcast Cable Communications, LLC is registered to conduct business in the state of Texas and has appointed C T Corporation System, located at 1999 Bryan ST., Ste. 900, Dallas, TX 75201 as its agent for service of process.

- 3. Defendant Comcast Cable Communications Management, LLC is a limited liability company organized and existing under the laws of the State of Delaware that maintains regular and established places of business throughout Texas, for example, at its facilities in this District, such as 135 Houston St., Lewisville Texas, 75057; 1300 Coit Road, Plano Texas 75075; 3033 W. President George Bush Hwy, Plano Texas 75075; 900 Venture Drive, Allen Texas 75013; and 8537 Labelle Road, Beaumont Texas, 77705. Comcast Cable Communications Management, LLC is registered to conduct business in the state of Texas and has appointed Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company 211 E. 7th Street, Suite 620, Austin, TX 78701 USA as its agent for service of process.
- 4. Defendant is a multinational information technology company and develops and sells networking equipment and phone services. Defendant sells its products to customers, including customers in this District.
- 5. Defendant operates and owns the xfinity.com and comcast.com websites, and it markets, offers, distributes, and provides technical support for its networking equipment and phone services throughout the United States including in this District.
- 6. Defendant develops, designs, manufactures, distributes, markets, offers to sell, and/or sells infringing products and services within the United States, including in this District, and otherwise purposefully directs infringing activities to this District in connection with its aforementioned Texas offices; its aforementioned websites; and its other places of business in

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Texas and the rest of the United States. Defendant participates in the design, development, manufacture, sale for importation into the United States, offers for sale for importation into the United States, importation into the United States, sale within the United States after importation, and offers for sale within the United States after importation, of networking equipment and phone services that infringe the Asserted Patents.

- 7. On information and belief, Defendant is engaged in making, using, selling, offering for sale, and/or importing, and/or inducing its subsidiaries, affiliates, retail partners, and customers in the making, using, selling, offering for sale, and/or importing throughout the United States, including within this District, the products, such as networking equipment, and services, such as phone services, accused of infringement.
- 8. Prior to the filing of the Complaint, Plaintiff attempted to engage Defendant and/or its agents in good faith licensing discussions related to the Asserted Patents, including by sending them correspondence on September 13, 2024 notifying Defendant of the need to license the Asserted Patents. Defendant's past and continuing sales of its devices i) willfully infringe the Asserted Patents and ii) impermissibly take the significant benefits of Plaintiff's patented technologies without fair compensation to Plaintiff.
- 9. Through offers to sell, sales, imports, distributions, and other related agreements to transfer ownership of Defendant's electronics, such as networking equipment, and/or Defendant's services, such as phone services, with distributors and customers operating in and maintaining a significant business presence in the U.S. and/or its U.S. subsidiaries Defendant does business in the U.S., the state of Texas, and in this District.

JURISDICTION AND VENUE

- 10. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.
- 11. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).
- 12. This Court has personal jurisdiction over Defendant in accordance with due process and/or the Texas Long Arm Statute because, in part, Defendant "recruits Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state." TEX. CIV. PRAC. & REM. CODE § 17.042(3).
- 13. This Court has personal jurisdiction over Defendant because Defendant has engaged, and continues to engage in continuous, systematic, and substantial activities within this State, including the substantial marketing and sale of products within this State and this District. Furthermore, upon information and belief, this Court has personal jurisdiction over Defendant because Defendant has committed acts giving rise to Plaintiff's claims for patent infringement within and directed to this District.
- 14. For example, Defendant is subject to personal jurisdiction in this Court because, *inter alia*, it has regular and established places of business in this District, including offices and data centers located at 135 Houston St., Lewisville Texas, 75057; 1300 Coit Road, Plano Texas 75075; 3033 W. President George Bush Hwy, Plano Texas 75075; 900 Venture Drive, Allen Texas 75013; and 8537 Labelle Road, Beaumont Texas, 77705.
- 15. Defendant's offices in the District are regular and established places of business at least because these locations include many members of Defendant's important teams, including

engineers and sales representatives. Defendant's employees in the District are highly specialized and are important to the operation of Defendant.

- 16. Defendant, directly and through its agents, regularly conducts, solicits, and transacts business in this District and elsewhere in Texas, including through its xfinity.com and comcast.com websites. For example, Defendant employs sales and marketing employees that regularly sell, offer to sell, or otherwise distribute networking equipment in this District and elsewhere in Texas.
- 17. Defendant has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, and sold infringing products in Texas, including in this District, and engaged in infringing conduct within and directed at or from this District. The infringing networking equipment have been and continue to be distributed to and used in this District. Defendant's acts cause injury to Plaintiff, including injury suffered within this District.
- 18. Moreover, on information and belief, Defendant has previously litigated patent infringement cases before this Court without contesting jurisdiction and venue.
- 19. Exercising personal jurisdiction over Defendant in this District would not be unreasonable given Defendant's contacts in this District, the interest in this District of resolving disputes related to products sold herein.
- 20. In addition, Defendant has knowingly induced and continues to knowingly induce infringement within this District by advertising, marketing, offering for sale and/or selling devices pre-loaded with infringing functionality within this District, to consumers, customers, manufacturers, distributors, resellers, partners, and/or end users, and providing instructions, user

manuals, advertising, and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

- 21. Personal jurisdiction also exists specifically over Defendant because it, directly or through affiliates, subsidiaries, agents, or intermediaries, transacts business in this State or purposefully directed at this State (including, without limitation, retail stores including Best Buy) by making, importing, offering to sell, selling, and/or having sold infringing products within this State and District or purposefully directed at this State or District.
- 22. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because a substantial part of the events or omissions giving rise to the claims occurred in this District, and because Defendant has committed acts of infringement in this District and have a regular and established place of business in this District.
- 23. On information and belief, Defendant has placed and continues to place infringing products and/or products that practice infringing processes into the stream of commerce via established distribution channels, with the knowledge and/or intent that those products are and/or will be imported, used, offered for sale, sold, and continue to be sold in the United States and Texas, including in this judicial district. As a result, Defendant has, vicariously through and/or in concert with its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers, placed the Accused Products (identified in Counts I – IV) into the stream of commerce via established distribution channels with the knowledge and/or intent that those products were sold and continue to be sold in the United States and Texas, including in this judicial district.

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 7,193,986)

24. Plaintiff incorporates the preceding paragraphs herein by reference.

- 25. Plaintiff is the assignee of the '986 patent, entitled "Wireless network medium access control protocol," with ownership of all substantial rights in the '986 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.
- 26. The '986 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '986 patent issued from U.S. Patent Application No. 10/158,680.
- 27. Defendant has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '986 patent in this judicial district and elsewhere in Texas and the United States.
- 28. Defendant designs, develops, manufactures, assembles and markets wireless access points that are configured to support 802.11ax, such as the Xfinity Gateway XB7 and XB8 ("the '986 Accused Products").
- 29. Defendant directly infringes the '986 patent under 35 U.S.C. § 271(a) by using, making, offering for sale, selling, and/or importing the '986 Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '986 patent.
- 30. For example, Defendant infringes claim 1 of the '986 patent via the '986 Accused Products. The '986 Accused Products comprise a "master wireless network device including a wireless medium adaptor and a component implementing a medium access protocol." For example, the '986 Accused Products are wireless access points that support 802.11ax target wake time ("TWT") functionality.

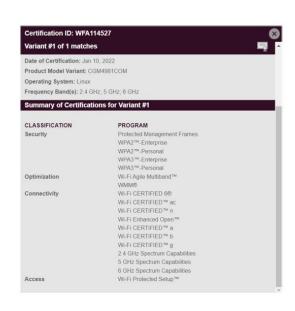
1.1 Features at a glance

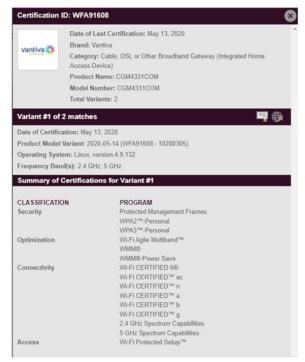
Introduction

This section provides a brief overview of the main features of your gateway.

- DOCSIS® 3.1 Certified
- 2 DOCSIS® 3.1 OFDM downstream channels & 2 DOCSIS® 3.1 OFDM upstream channels
- DOCSIS® 3.0 Certified
- 32 x 8 bonded channels in DOCSIS 3.0 mode
- Switchable diplexer for upstream and downstream
- One IEEE 802.3 10/100/1000/2500 Base-T 2.5 Gigabit Ethernet WAN/LAN port with MacSEC
- Three IEEE 802.3 10/100/1000 Base-T Gigabit Ethernet LAN ports
- Wireless networking on-board
- IEEE 802.11ax 2.4 GHz Wi-Fi (4x4)
- IEEE 802.11ax 5 GHz Wi-Fi (4x4)
- IEEE 802.11ax 6 GHz Wi-Fi (4x4)

XB8 User Guide, p. 8. The '986 Accused Products are certified as supporting TWT. For example, the XB8 (aka Model No. CGM4981COM) was certified by the Wi-Fi alliance as supporting TWT:





Source: https://www.wi-fi.org/product-finder-results?sort_by=certified&sort_order=desc# advanced filters.

31. The '986 Accused Products are configured such that the component is "arranged to cause said adaptor to transmit temporally spaced packets of information." For example, the 802.11ax standard specifies that a TWT responding AP (i.e., a master wireless network device) will transmit frames (i.e., packets of information) during the TWT Service Period (SP) (i.e., temporally spaced):

10.47.1 TWT overview

Target wake times (TWTs) allow STAs to manage activity in the BSS by scheduling STAs to operate at different times in order to minimize contention and to reduce the required amount of time that a STA utilizing a power management mode needs to be awake. TWTs can be individual TWTs, which are described in 10.47 and 26.8.2, or broadcast TWTs, which are described in 26.8.3.

STAs that request a TWT agreement are called TWT requesting STAs and the STAs that respond to their requests are TWT responding STAs. A TWT requesting STA is assigned specific times to wake and exchange frames with the TWT responding STA. A TWT requesting STA communicates wake scheduling

10.47.4 Implicit TWT operation

The TWT values for an implicit TWT are periodic. A TWT requesting STA operating with an implicit TWT agreement shall determine the next TWT SP start time by adding the value of TWT Wake Interval associated with this TWT agreement to the value of the start time of the current TWT SP. A TWT requesting STA operating with an implicit TWT agreement with a TWT flow identifier that matches the TWT flow identifier of

32. The '986 Accused Products are configured such that the component is "arranged to receive packets of information through said adaptor from slave network devices" with "at least some of said transmitted packets including a pointer indicating the relative time before which a designated packet of information will be transmitted" and "designated packet of information including an indication of the slave network devices participating in said network and respective indications as to when participating slave network devices should transmit packets of information for reception by said master wireless network device." For example, the 802.11ax standard specifies that a TWT scheduling AP can exchange frames at specific times and receive wake

scheduling information (i.e., receive packets of information) from TWT requesting STAs (i.e., slave network devices):

10.47.1 TWT overview

Target wake times (TWTs) allow STAs to manage activity in the BSS by scheduling STAs to operate at different times in order to minimize contention and to reduce the required amount of time that a STA utilizing a power management mode needs to be awake. TWTs can be individual TWTs, which are described in 10.47 and 26.8.2, or broadcast TWTs, which are described in 26.8.3.

STAs that request a TWT agreement are called TWT requesting STAs and the STAs that respond to their requests are TWT responding STAs. A TWT requesting STA is assigned specific times to wake and exchange frames with the TWT responding STA. A TWT requesting STA communicates wake scheduling information to its TWT responding STA and the TWT responding STA devises a schedule and delivers TWT values to the TWT requesting STA when a TWT agreement has been established between them. When explicit TWT is employed, a TWT requesting STA wakes and performs a frame exchange and receives the next TWT information in a response from the TWT responding STA as described in 10.47.3. When implicit TWT is used, the TWT requesting STA calculates the Next TWT by adding a fixed value to the current TWT value as described in 10.47.4. STAs need not be made aware of the TWT values of other STAs. A TWT requesting STA and a TWT responding STA shall set the Negotiation Type subfield to 0 in the TWT element of transmitted frames containing the TWT element, except when the STAs are HE STAs. Additional TWT setup exchanges between HE STAs for individual TWT operation are defined in 26.8.

The 802.11ax standard further specifies that a TWT responding AP will include the start time for a series of TWT SPs (i.e., a pointer indicating the relative time) corresponding to a single Flow Identifier of an Implicit TWT agreement in the TWT field of the TWT element:

10.47.4 Implicit TWT operation

The TWT responding STA shall include the start time for a series of TWT SPs corresponding to a single TWT Flow Identifier of an Implicit TWT agreement in the Target Wake Time field of the TWT element which contains a value of Accept TWT in the TWT Setup Command field and the TWT Flow Identifier value corresponding to that TWT agreement in the TWT Flow Identifier subfield. The start time of the TWT SP series indicates the beginning time of the first TWT SP in the series. Subsequent TWT SPs start times are determined by adding the value of TWT Wake Interval to the current TWT SP start time.

9.4.1.60 TWT Information field

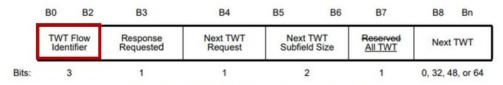


Figure 9-142—TWT Information field format

The 802.11ax standard further specifies that a TWT scheduling AP will transmit a TWT element including a TWT Group Assignment field (i.e., indication of the slave network devices

participating in said network) that indicates TWT Group Assignment of the slave network devices participating in the network:

9.4.2.199 TWT element

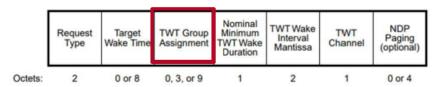


Figure 9-687a—Individual TWT Parameter Set field format

The TWT Group Assignment field provides information to a requesting STA about the TWT group to which the STA is assigned. This field contains the TWT Group ID, Zero Offset of Group (optional), TWT Unit, and TWT Offset subfields. The TWT Group Assignment field and the corresponding subfields are depicted in Figure 9-689.

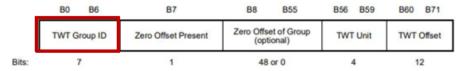


Figure 9-689—TWT Group Assignment field format

The TWT Group ID subfield is an unsigned integer and indicates the identifier of the TWT group to which the requesting STA is assigned. A TWT group is a group of STAs that have TWT values that lie within a specific interval of TSF values. The value zero in the TWT Group ID subfield is used to indicate the unique TWT group, which contains all STAs in the BSS.

The 802.11ax standard further specifies that a TWT scheduling AP will transmit a TWT element including a TWT Group Assignment field. These include the TWT Unit and TWT Offset subfields that indicate the TWT Unit value used within the TWT group to calculate the TWT, and the position within the group when the STA should transmit, and thus the TWT positions of the other group members (i.e., when the participating slave network devices should transmit):

The TWT Unit subfield indicates the unit of increment of the TWT values within the TWT group identified by the TWT group ID. The TWT Unit subfield encoding is shown in Table 9-298.

9.4.2.199 TWT element

The TWT Group Assignment field provides information to a requesting STA about the TWT group to which the STA is assigned. This field contains the TWT Group ID, Zero Offset of Group (optional), TWT Unit, and TWT Offset subfields. The TWT Group Assignment field and the corresponding subfields are depicted in Figure 9-689.



Figure 9-689—TWT Group Assignment field format

The TWT Group ID subfield is an unsigned integer and indicates the identifier of the TWT group to which the requesting STA is assigned. A TWT group is a group of STAs that have TWT values that lie within a specific interval of TSF values. The value zero in the TWT Group ID subfield is used to indicate the unique TWT group, which contains all STAs in the BSS.

Table 9-298-TWT Unit subfield encoding

TWT Unit subfield value	TWT Unit time value	
0	32 μs	
1	256 µs	
2	1024 μs	
3	8.192 ms	
4	32.768 ms	
5	262.144 ms	
6	1.048576 s	
7	8.388608 s	
8	33.554432 s	
9	268.435456 s	
10	1073.741824 s	
11	8589.934592 s	
12-15	Reserved	

The TWT Offset subfield indicates the position within the indicated group, of the STA corresponding to the RA of the frame containing the TWT element.

A non-AP STA uses the TWT Group ID. Zero Offset of Group, TWT Unit, and TWT Offset subfield values to compute its TWT value within the TWT group. A STA's TWT value is equal to the value of the Zero Offset of Group subfield plus TWT Offset subfield times the value of TWT Unit subfield.

- 33. The technology discussion above and the exemplary '986 Accused Products provide context for Plaintiff's infringement allegations.
- 34. At a minimum, Defendant has known of the '986 patent since at least the service of this complaint on September 26, 2024. Further, Defendant has known of the '986 patent since at least the filing date of the complaint on September 20, 2024. In addition, Defendant has known about the '986 patent since at least September 16, 2024, when it received email correspondence from Plaintiff alerting Defendant to its infringement. Moreover, Defendant has known about the '986 patent since at least September 13, 2024, when Plaintiff sent correspondence to Defendant via FedEx alerting Defendant to its infringement.
- 35. On information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the '986 Accused Products that include or are made using all of the limitations of one or more claims of the '986 patent to directly infringe one or more claims of the '986 patent (e.g., claim 1, as discussed above) by using, offering for sale, selling, and/or importing the '986 Accused Products. Since at least the notice provided on the above-mentioned date, Defendant does so with

knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '986 patent. Defendant intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the '986 Accused Products, creating and/or maintaining established distribution channels for the '986 Accused Products into and within the United States, manufacturing the '986 Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying wireless networking features in the '986 Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. For example, Defendant configures the '986 Accused Products to contain specific instructions, in the form of executable code and configuration files, that cause such products to automatically implement and provide TWT functionality as discussed above (i.e., Defendant provides instructions that cause end users to use '986 Accused Products in an infringing manner). Moreover, in addition to the foregoing, Defendant encourages its customers and end users to use the '986 Accused Products as wireless gateways according to the 802.11ax standard and thus to use the '986 Accused Products in an infringing manner (e.g., through the implementation and use of TWT functionality).

1.1 Features at a glance

Introduction

This section provides a brief overview of the main features of your gateway.

- DOCSIS® 3.1 Certified
- 2 DOCSIS® 3.1 OFDM downstream channels & 2 DOCSIS® 3.1 OFDM upstream channels
- DOCSIS® 3.0 Certified
- 32 x 8 bonded channels in DOCSIS 3.0 mode
- Switchable diplexer for upstream and downstream
- One IEEE 802.3 10/100/1000/2500 Base-T 2.5 Gigabit Ethernet WAN/LAN port with MacSEC
- Three IEEE 802.3 10/100/1000 Base-T Gigabit Ethernet LAN ports
- Wireless networking on-board
- IEEE 802.11ax 2.4 GHz Wi-Fi (4x4)
- IEEE 802.11ax 5 GHz Wi-Fi (4x4)
- IEEE 802.11ax 6 GHz Wi-Fi (4x4)

XB8 User Guide, p. 8.

- 36. In the alternative, on information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '986 patent. For example, Defendant contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the '986 Accused Products. To the extent that the '986 Accused Products do not directly infringe one or more claims of the '986 patent, such products contain instructions, such as source code, that are especially adapted to cause the '986 Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the '986 Accused Products to conduct the 802.11 TWT protocol in an infringing manner and are a material part of the invention of the '986 patent and are not a staple article of commerce suitable for substantial non-infringing use.
- 37. On information and belief, despite having knowledge of the '986 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '986 patent,

Defendant has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Defendant's infringing activities relative to the '986 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

38. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

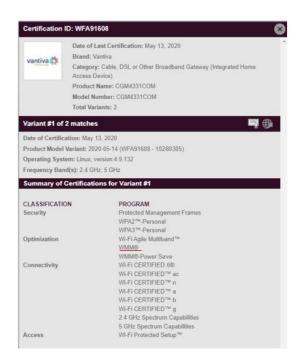
COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 7,324,491)

- 39. Plaintiff incorporates the preceding paragraphs herein by reference.
- 40. Plaintiff is the assignee of the '491 patent, entitled "Method and apparatus for over-the-air bandwidth reservations in wireless networks," with ownership of all substantial rights in the '491 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.
- 41. The '491 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '491 patent issued from U.S. Patent Application No. 10/978,072.
- 42. Defendant has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '491 patent in this judicial district and elsewhere in Texas and the United States.

- 43. Defendant designs, develops, manufactures, assembles and markets wireless access points that are configured to support Wi-Fi multimedia ("WMM"), such as the Xfinity Gateway XB7 and XB8 ("the '491 Accused Products").
- 44. Defendant directly infringes the '491 patent under 35 U.S.C. § 271(a) by using, making, offering for sale, selling, and/or importing the '491 Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '491 patent.
- 45. For example, Defendant infringes claim 1 of the '491 patent via the '491 Accused Products. The '491 Accused Products support WMM:





Source: https://www.wi-fi.org/product-finder-results?sort_by=certified&sort_order=desc# advanced_ filters. The '491 Accused Products perform a method for "controlling access to a wireless network providing communication for a plurality of wireless traffic streams to assure quality of service for designated traffic" via their use of WMM. For example, the WMM

specification outlines a method for controlling access to a wireless network for to assure QoS for designated traffic:

1.0 Overview

This document defines the specification for WMM, an 802.11 QoS implementation based on a subset of the draft IEEE 802.11e standard supplement [2]. It was originally motivated by the need to prevent market fragmentation caused by multiple, non-interoperable pre-standard subsets of the draft 802.11e standard that would otherwise occur. Deployment of WMM will deliver useful QoS functionality for services such as voice over 802.11 and streaming media.

1.3 WMM Features

 WMM will use an EDCA mechanism only, and except where explicitly indicated otherwise in this specification other 802.11 QoS features, including HCCA polling and associated signaling, Block Acknowledgement, and direct-link traffic, were not included in WMM.

4.3.10 QoS BSS

The first mechanism, designated the enhanced distributed channel access (EDCA), delivers traffic based on differentiating user priorities (UPs). This differentiation is achieved by varying the following for different UP values:

- Amount of time a STA senses the channel to be idle before backoff or transmission, or
- The length of the contention window to be used for the backoff, or
- The duration a STA transmits after it acquires the channel.

These transmissions might also be subject to certain channel access restrictions in the form of admission control. A DMG STA uses EDCA only within a contention based access period (CBAP). Details of EDCA are provided in 10.22.2 and, for DMG STAs, additional details are provided in 10.36.4, 10.36.5, and 10.36.63.

IEEE Std 802.11"-2016

46. The '491 Accused Products assign "all communication of the designated traffic to use one of a plurality of priorities on the wireless network." For example, the '491 Accused Products assign designated traffic differentiating Access Categories (i.e., a plurality of priorities):

highest

3.3 Assignment of Frames to Queues

3.3.1 Mappings for Unicast Frames

7

The MAC data service at a STA or AP provides for connectionless, asynchronous transport of MSDUs. Each MSDU transfer request includes an 802.1D Priority field equal to that value. The priority bits of the 802.1D field are mapped to Access Category (AC) according to Table 14 and are listed in increasing priority order. The UP field is carried in the QoS control field of an MPDU. The UP field references the AC the MPDU is transmitted at using the mapping defined in Table 14. At the receiver, the UP field carried in the MPDU shall be used to re-create the 802.1D priority information of the MSDU.

Priority 802.1D Priority 802.1D Designation WMM Designation Access Category (= UP) 1 BK lowest AC_BK Background 2 0 BE AC_BE Best Effort 3 EE 4 CL AC VI Video 5 VI 6 VO

Table 14 802.1D Priority to AC mappings

Transmit frames are then placed in queues according to AC. The AP and STA may implement more queues for internal prioritization. Data frames with no priority information are treated as best effort.

NC

AC_VO

Voice

47. The '491 Accused Products require "that ones of the plurality of wireless traffic streams wanting to communicate using the one of the plurality of priorities and higher ones of the plurality of priorities and using a distributed medium access protocol submit bandwidth reservation requests to a wireless access point." For example, the '491 Accused Products require that when a client station ("STA") seeks to communicate using a specific access category (AC) corresponding to a user priority (i.e., a higher one of the plurality of priorities) using the EDCA mechanism (i.e., a distributed medium access protocol) must submit a WMM TSPEC element in an ADDTS request management frame:

3.5.3 Procedure at STAs

At any point, following association, the STA may decide, to explicitly request admission of traffic to be transmitted or/and received on a specific AC. The STA shall use the mappings in Table 14 to identify the sending AC from the UP field

In order to make such a request, the STA shall transmit a WMM TSPEC element contained in a ADDTS request management action frame with the following fields specified (i.e. non-zero):

Nominal MSDU Size, Mean Data Rate, Minimum PHY Rate, and Surplus Bandwidth Allowance.

The Medium Time field is not used in the request frame and shall be set to zero.

1.2 Terms and Definitions

Name	Definition
AC	Access category: A label for the common set of enhanced distributed channel access (EDCA) parameters that are used by a WMM STA to contend for the channel in order to transmit MSDUs with certain priorities. WMM defines 4 ACs.

enhanced distributed channel access (EDCA): The prioritized carrier sense multiple access with collision avoidance (CSMA/CA) access mechanism used by quality-of-service (QoS) stations (STAs) in a QoS basic service set (BSS) and STAs operating outside the context of a BSS. This access mechanism is also used by the QoS access point (AP) and operates concurrently with hybrid coordination function (HCF) controlled channel access (HCCA).

48. The '491 Accused Products receive "a bandwidth reservation by one of the plurality of wireless traffic streams for communication from the wireless access point in response to a bandwidth reservation request upon bandwidth being available on the wireless network." For example, the '491 Accused Products assign a bandwidth reservation to a traffic stream in an ADDTS response management action frame from the access point upon bandwidth being available:

3.5.2 Procedures at the AP

The AP shall respond to requests for admission conveyed in the WMM TSPEC request elements for those AC(s) with ACM flag set to 1. If the AP supports delivery-enabled-only or triggerenabled-only U-APSD operation it shall respond to requests for admission conveyed in the WMM TSPEC request elements even if the ACM flag is set to 0. If the ACM flag is set to 0 for an AC,

the AP is not required to respond to a TSPEC request on that AC if the AP only supports bidirectional U-APSD settings (does not support delivery-enabled only or trigger-enabled only state). On receipt of a WMM TSPEC request element conveyed in an ADDTS Request Frame from an associated STA, the AP shall make a determination as to whether to

- a) accept the request
- b) deny the request

The AP may use any algorithm in making such a determination. If the AP decides to accept the request, the AP shall also derive the Medium Time from the information conveyed in the WMM TSPEC request element. The AP may use any algorithm in deriving the Medium Time, but normally it will use the procedure described in the Annex. Having made such a determination, the AP shall transmit a WMM TSPEC element to the requesting STA contained in a ADDTS response management action frame. If the AP is accepting the request, the Medium Time field shall be specified. An AP shall return a Medium Time equal to zero when accepting a unidirectional, downlink TS request.

49. The '491 Accused Products communicate "by other ones of the plurality of wireless traffic streams using lower ones of the plurality of priorities without requiring bandwidth reservation requests." For example, the '491 Accused Products communicate traffic that does not need a specific AC (i.e., lower ones of the plurality of priorities) using, for example, a channel access time with a backoff function timer that does not require a bandwidth reservation request:

3.4 Channel Access Protocol

3.4.1 Reference Implementation

Subject to the conditions described in section 3.5.3, traffic for an admitted stream may be transmitted by using the parameters (AIFSN, TXOP Limit, CWmin, CWmax) of a lower-priority AC on to configured for mandatory admission control without changing the user priority carried in the QoS control field of the frame. In this situation all references to these parameters in this secti (3.4) shall be construed as references to those of the lower-priority AC.

3.4.3 Obtaining an EDCA TXOP

Each channel access timer shall maintain a backoff function timer, which has a value measured in backoff slots.

The duration AIFS[AC] is a duration derived from the value AIFSN[AC] by the relation

AIFS[AC] = AIFSN[AC] × aSlotTime + aSIFSTime

An EDCA TXOP is granted to a channel access function when the channel access function determines that it shall initiate the transmission of a frame exchange sequence. Transmissi initiation shall be determined according to the following rules:

On specific slot boundaries, each channel access function shall make a determination to perform and only one of the following functions:

a) Initiate the transmission of a frame exchange sequence for that access function

- b) Decrement the backoff timer for that access function
- c) Invoke the backoff procedure due to an internal collision
- d) Do nothing for that access function.

1.2 Terms and Definitions

Admitted AC	Traffic transmitted using an AC based on parameters in a WMM TSPEC element contained in an ADDTS response management action frame
Un-admitted AC	Traffic transmitted using an AC that did not require admission.

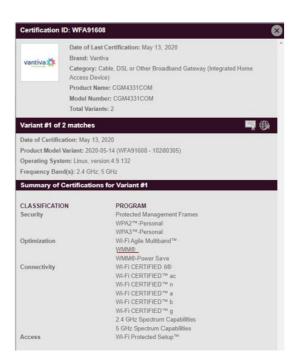
2.2.11 WMM TSPEC Element

A WMM TSPEC request shall be transmitted by a STA to an AP in order to request admission for an AC that requires admission control. The STA may transmit unadmitted traffic for those ACs for which the AP does not mandate admission control. A STA may need to transmit a WMM TSPEC request for an AC that does not mandate admission control, e.g for the establishment of the triggered power save mode of operation.

- 50. The technology discussion above and the exemplary '491 Accused Products provide context for Plaintiff's infringement allegations.
- 51. At a minimum, Defendant has known of the '491 patent since at least the service of this complaint on September 26, 2024. Further, Defendant has known of the '491 patent since at least the filing date of the complaint on September 20, 2024. In addition, Defendant has known about the '491 patent since at least September 16, 2024, when it received email correspondence from Plaintiff alerting Defendant to its infringement. Moreover, Defendant has known about the '491 patent since at least September 13, 2024, when Plaintiff sent correspondence to Defendant via FedEx alerting Defendant to its infringement.
- 52. On information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the '491 Accused Products that include or are made using all of the limitations of one or more claims of the '491 patent to directly infringe one or more claims of the '491 patent (e.g., claim 1, as discussed above) by using, offering for sale, selling, and/or importing the '491 Accused Products. Since at least the notice provided on the above-mentioned date, Defendant does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '491 patent. Defendant intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the '491 Accused Products, creating and/or maintaining established distribution channels for the '491 Accused Products into and within the United States, manufacturing the '491 Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to

purchasers and prospective buyers, testing and certifying wireless networking features in the '491 Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. For example, Defendant configures the '491 Accused Products to contain specific instructions, in the form of executable code and configuration files, that cause such products to automatically implement and provide WMM functionality as discussed above (i.e., Defendant provides instructions that cause end users to use Accused Products in an infringing manner). Moreover, in addition to the foregoing, Defendant encourages its customers and end users to use the '491 Accused Products according to the WMM standard and thus to use Accused Products in an infringing manner by having the Wi-Fi Alliance certify and advertise that the Accused Products comply with the WMM standard.





Source: https://www.wi-fi.org/product-finder-results?sort_by=certified&sort_order=desc# advanced filters.

53. In the alternative, on information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has contributorily infringed, under

U.S.C. § 271(c), one or more claims of the '491 patent. For example, Defendant contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the '491 Accused Products. To the extent that the '491 Accused Products do not directly infringe one or more claims of the '491 patent, such products contain instructions, such as source code, that are especially adapted to cause the '491 Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the '491 Accused Products to conduct the WMM QoS implementation in an infringing manner and are a material part of the invention of the '491 patent and are not a staple article of commerce suitable for substantial non-infringing use.

- 54. On information and belief, despite having knowledge of the '491 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '491 patent, Defendant has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Defendant's infringing activities relative to the '491 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.
- 55. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 9,705,940)

56. Plaintiff incorporates the preceding paragraphs herein by reference.

- 57. Plaintiff is the assignee of the '940 patent, entitled "Simultaneous advanced call control for both simple and advanced SIP user agents," with ownership of all substantial rights in the '940 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.
- 58. The '940 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '940 patent issued from U.S. Patent Application No. 12/013,283.
- 59. Defendant has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '940 patent in this judicial district and elsewhere in Texas and the United States.
- 60. Defendant designs, offers for sale, uses, and sells services, such as Comcast Voice Mobility and Business VoiceEdge ("the '940 Accused Products"), that infringe the '940 patent.
- 61. Defendant directly infringes the '940 patent under 35 U.S.C. § 271(a) by using, making, offering for sale, selling, and/or importing the '940 Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '940 patent.
- 62. For example, Defendant infringes claim 1 of the '940 patent via the '940 Accused Products. The '940 Accused Products support an Anywhere Calling feature:

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FEATURES		VOICE MOBILITY	BUSINESS VOICEEDGE®	PRI TRUNKS	SIP TRUNKS
Capacity	(1)	1-24 lines	1-5,000+ seats	6-184 trunks	6-800 trunks
Phones Offered		No	Yes	No	No
Phone System	<u></u>	Cloud PBX	Cloud PBX	PBX	IP PBX
Mobility Feature	0	Yes	Yes	No	No
		SHOP NOW	LEARN MORE	LEARN MORE	LEARN MORE
This lets you know if a service includes anywhere calling features.					

Source: https://business.comcast.com/learn/phone/voice-mobility.

63. The '940 Accused Products create "a call abstraction between a first User Agent controlled by a call control agent and a second User Agent, wherein the first User Agent and the second User Agent are associated with a first user, wherein the call control agent is located on a server separate from the first and second User Agent." For example, the '940 Accused Products create a call abstraction between a user's mobile device ("a second User Agent") and the user's office phone ("a first User Agent"):

Introduction

Be Anywhere allows you to make and receive calls from any phone or mobile device at any location. Receive inbound calls on any of your devices in addition to your office phone. Make calls from those devices while still displaying the Caller ID of your business landline to your called party.

Source: https://business.comcast.com/support/article/voice/business-voice-mobility-beanywhere.

Take business calls – anytime, anywhere with <u>Be Anywhere in the Comcast Business App.</u> You can make and receive calls from any device at any location using your primary business number. When using the Comcast Business mobile app, outbound calls will appear to come from your business number, keeping your personal phone's number private.

Source: https://business.comcast.com/support/article/voice/be-anywhere-comcast-business-app.

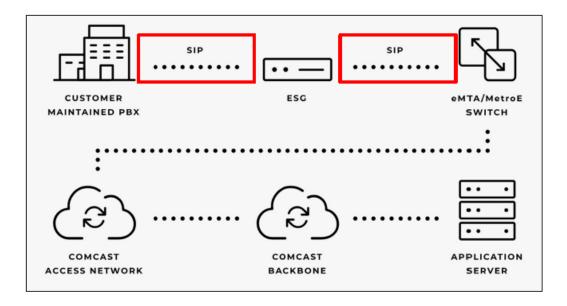
The first device phone number must be assigned to the same account as the user signed-in to the mobile device, i.e. "the first User Agent and the second User Agent are associated with a first user."

Make an outbound call from your Comcast Business mobile app

To use the Comcast Business Mobile App on your device to manage Be Anywhere and make outbound calls, please make sure your Comcast Business user has a phone number assigned. Follow these instructions to assign a phone number:

Source: https://business.comcast.com/support/article/voice/business-voice-mobility-be-anywhere#make-an-outbound-call-from-your-comcast-business-mobile-app. The first user agent is controlled by a Cloud PBX ("a call control agent") which is on a server separate from the first and second User Agent.

64. The '940 Accused Products enable "a call control application to one or more of (i) remotely monitor Session Initiation Protocol (SIP) functions and (ii) remotely control SIP functions of the first User Agent via the call control agent on the server." For example, the '940 Accused Products communicate to and from VoIP endpoints (e.g., the first User Agent) using the SIP protocol:



Source: https://business.comcast.com/enterprise/products-services/unified-communications/siptrunks.

A hosted PBX service will make use of SIP in order to connect VoIP endpoints such as a VoIP telephones or apps on a mobile device. Any business will have its PBX use SIP trunks in order to make a VoIP connection.

Source: https://www.telco-data.com/blog/sip-voip-pbx/.

A call control application both controls and monitors SIP functions of the user's office phone to provide Anywhere functions such as call forwarding and sequential ring:

Streamline how you communicate with customers, staff, and vendors. Take calls from your business line on the go. Route calls to the next team member when you can't pick up. And feel confident knowing you're on one of the nation's largest Voice over Internet Protocol (VoIP) networks.

Source: https://business.comcast.com/learn/phone/voice-mobility.

- 3. Enter or select the following Rules details:
 - Rule name: Enter a rule description. For example, Nights and Weekends or Calls from IT Department.
 - Time Schedule: Choose the time of day you would like sequential ring to be active. Every Day All Day is selected by default. You can also customize your own time schedule.

Source: https://business.comcast.com/support/article/voice/business-voice-mobility-be-anywhere.

Sequential ring allows you to route calls to certain phones in a defined order so that you do not miss an important call.

Source: https://business.comcast.com/support/article/voice/manage-sequential-ring-for-business-voiceedge.

- 65. The technology discussion above and the exemplary '940 Accused Products provide context for Plaintiff's infringement allegations.
- 66. At a minimum, Defendant has known of the '940 patent since at least the service of this complaint on September 26, 2024. Further, Defendant has known of the '940 patent since at least the filing date of the complaint on September 20, 2024. In addition, Defendant has known about the '940 patent since at least September 16, 2024, when it received email correspondence from Plaintiff alerting Defendant to its infringement. Moreover, Defendant has known about the '940 patent since at least September 13, 2024, when Plaintiff sent correspondence to Defendant via FedEx alerting Defendant to its infringement.
- 67. On information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the '940 Accused Products that include or are made using all of the limitations of one or more claims

of the '940 patent to directly infringe one or more claims of the '940 patent (e.g., claim 1, as discussed above) by using, offering for sale, selling, and/or importing the '940 Accused Products. Since at least the notice provided on the above-mentioned date, Defendant does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '940 patent. Defendant intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the '940 Accused Products, creating and/or maintaining established distribution channels for the '940 Accused Products into and within the United States, manufacturing the '940 Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and testing the '940 Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. For example, Defendant configures the '940 Accused Products to contain specific instructions, in the form of executable code and configuration files, that cause such products to implement and provide the Anywhere Calling feature as discussed above (i.e., Defendant provides instructions that cause end users to use '940 Accused Products in an infringing manner). Further, Defendant encourages end users to use '940 Accused Products in an infringing manner by advertising the Anywhere Calling features of the Accused Products:

Advantages of Business Voice Mobility

A Comcast Business Voice Mobility line is for business people who want the convenience of landline phone service without being tied to a desk phone. With a Business Voice Mobility line, business phone calls can be made or received within the office or any remote location. The Mobility line is ideal for small businesses with employees who are on the go and need to be reached anytime, anywhere.

Note: Access to these features requires the purchase of a Business Voice Mobility line. For more information, contact a Business sales representative at **(800) 391-3000**. Mobility lines are not available in all areas.

Make and receive calls from any phone or mobile device at any location. Receive inbound calls on any device in addition to your office phone as well as make calls from those devices while still displaying the Caller ID of your business landline to your called party.

Source: https://business.comcast.com/support/article/voice/phone-business-class-voice-features.

Moreover, in addition to the preceding paragraphs, Defendant encourages its customers and end users to use the Anywhere Calling feature of the Accused Products. *See*

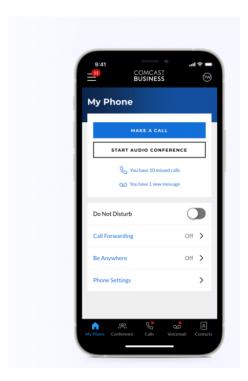
https://business.comcast.com/support/article/voice/business-voice-mobility-be-anywhere; see also https://business.comcast.com/learn/phone/voice-mobility:

Anywhere calling is just a download away

Mind the shop without missing calls. Stay connected on your business line wherever you work. And offer a polished presentation to clients and customers by letting them reach you on your business line, wherever you go.

Download the Comcast Business App to take advantage of anywhere calling and all your Voice Mobility features.





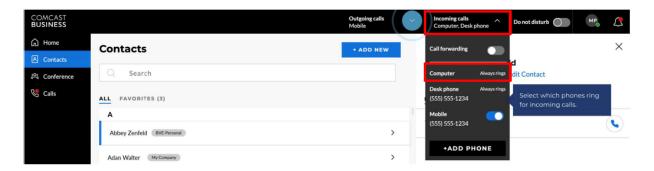
- 68. In the alternative, on information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '940 patent. For example, Defendant contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the '940 Accused Products. To the extent that the '940 Accused Products do not directly infringe one or more claims of the '940 patent, such products contain instructions, such as source code, that are especially adapted to cause the '940 Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the '940 Accused Products to provide call control in an infringing manner and are a material part of the invention of the '940 patent and are not a staple article of commerce suitable for substantial non-infringing use.
- 69. On information and belief, despite having knowledge of the '940 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '940 patent, Defendant has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Defendant's infringing activities relative to the '940 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.
- 70. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV

(INFRINGEMENT OF U.S. PATENT NO. 7,711,101)

- 71. Plaintiff incorporates the preceding paragraphs herein by reference.
- 72. Plaintiff is the assignee of the '101 patent, entitled "Direct calling to devices via a shared telephone number," with ownership of all substantial rights in the '101 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.
- 73. The '101 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '101 patent issued from U.S. Patent Application No. 11/203,350.
- 74. Defendant has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '101 patent in this judicial district and elsewhere in Texas and the United States.
- 75. Defendant designs, offers for sale, uses, and sells services, such as Comcast Business VoiceEdge ("the '101 Accused Products"), that infringe the '101 patent.
- 76. Defendant directly infringes the '101 patent under 35 U.S.C. § 271(a) by using, making, offering for sale, selling, and/or importing the '101 Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '101 patent.
- 77. For example, Defendant infringes claim 1 of the '101 patent via the '101 Accused Products by performing a "method for establishing a voice telephone call with a device that has an address outside the address space of the Public Switched Telephone Network." For example, the '101 Accused Products allow calls made to a Comcast phone number to be forwarded to a

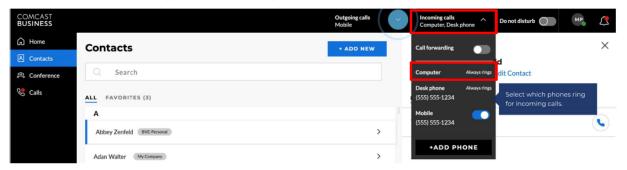
computer with the Comcast Business App, i.e., a device that has an "address outside the address space of the PSTN.



78. The '101 Accused Products receive "a first call set-up message for a first voice telephone call that has been forwarded from a first originally-called telephone number, wherein said first originally-called telephone number is an address in the address space of the Public Switched Telephone Network." For example, the "Be Anywhere" feature of Comcast VoiceEdge allows users to receive, at a computer, a first call set-up message for a first telephone call that has been forwarded from a first originally-called telephone number:

Be Anywhere

Define phones to receive calls from your business telephone number at any location. Add devices and enable the Be Anywhere feature so you never miss a call.

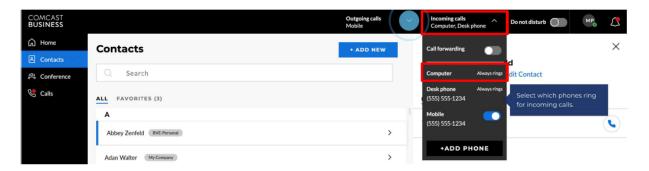


79. The '101 Accused Products attempt "without human intervention and without intervention of an interactive voice response system, to establish a voice telephone call with a first device that has an address outside the address space of the Public Switched Telephone Network." For example, when a call is made to a Comcast business telephone number, an attempt is made to

establish a voice telephone with call each of the devices defined to receive calls. If a computer is defined, said attempt will be with a first device that has an address outside the address space of the PSTN:

Be Anywhere

Define phones to receive calls from your business telephone number at any location. Add devices and enable the Be Anywhere feature so you never miss a call.

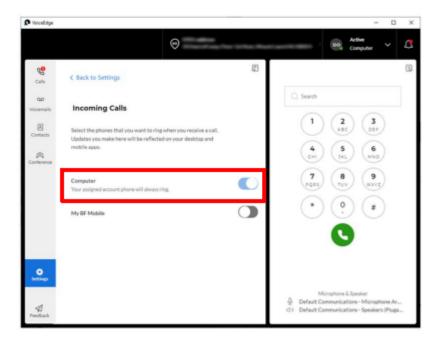


80. The '101 Accused Products are configured such that the "address of said first device is found from said first originally-called telephone number." For example, the '101 Accused Products use the originally-called telephone number to look up the rules configured for that number, such as a computer defined to receive calls. When a user sets an internet-connected device to receive calls, Defendant links the device's IP address to the user's telephone number.

Enable a Be Anywhere Device

Once added, you can enable the device to receive an incoming call or make an outgoing call.

- 1. Click on Settings in the left-hand menu.
- 2. Select Incoming Calls.



- 3. Choose to activate any Be Anywhere device.
- Be Anywhere devices can also be selected from the Incoming and Outgoing Calls dropdown menu.
- 81. The '101 Accused Products are configured such that the "caller of said first voice telephone call is not notified of the forwarding from said first originally-called telephone number." For example, Defendant forwards calls transparently to the caller.
- 82. The technology discussion above and the exemplary '101 Accused Products provide context for Plaintiff's infringement allegations.
- 83. At a minimum, Defendant has known of the '101 patent since at least the service of this complaint on September 26, 2024. Further, Defendant has known of the '101 patent since at least the filing date of the complaint on September 20, 2024. In addition, Defendant has known about the '101 patent since at least September 16, 2024, when it received email correspondence

from Plaintiff alerting Defendant to its infringement. Moreover, Defendant has known about the '101 patent since at least September 13, 2024, when Plaintiff sent correspondence to Defendant via FedEx alerting Defendant to its infringement.

84. On information and belief, since at least the above-mentioned date when Defendant was on notice of its infringement, Defendant has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the '101 Accused Products that include or are made using all of the limitations of one or more claims of the '101 patent to directly infringe one or more claims of the '101 patent (e.g., claim 1, as discussed above) by using, offering for sale, selling, and/or importing the '101 Accused Products. Since at least the notice provided on the above-mentioned date, Defendant does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '101 patent. Defendant intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the '101 Accused Products, creating and/or maintaining established distribution channels for the '101 Accused Products into and within the United States, manufacturing the '101 Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and testing the '101 Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. For example, Defendant configures the '101 Accused Products to contain specific instructions, in the form of executable source code and configuration files, that cause such products to implement and provide the Anywhere Calling feature as discussed above (i.e., Defendant provides instructions that cause end users to use the '101 Accused Products in an infringing

manner). Further, Defendant encourages end users to use '101 Accused Products in an infringing manner by advertising the Anywhere Calling features of the Accused Products:

Advantages of Business Voice Mobility

A Comcast Business Voice Mobility line is for business people who want the convenience of landline phone service without being tied to a desk phone. With a Business Voice Mobility line, business phone calls can be made or received within the office or any remote location. The Mobility line is ideal for small businesses with employees who are on the go and need to be reached anytime, anywhere.

Note: Access to these features requires the purchase of a Business Voice Mobility line. For more information, contact a Business sales representative at (800) 391-3000. Mobility lines are not available in all areas.

Make and receive calls from any phone or mobile device at any location. Receive inbound calls on any device in addition to your Be Anywhere office phone as well as make calls from those devices while still displaying the Caller ID of your business landline to your called party.

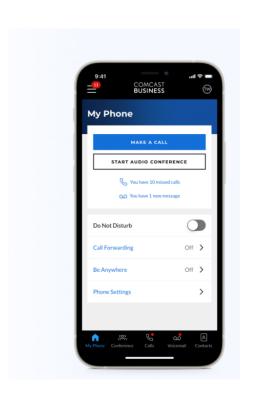
Source: https://business.comcast.com/support/article/voice/phone-business-class-voice-features. Moreover, in addition to the preceding paragraphs, Defendant encourages its customers and end users to use the Anywhere Calling feature of the Accused Products. See https://business.comcast.com/support/article/voice/business-voice-mobility-be-anywhere; see also https://business.comcast.com/learn/phone/voice-mobility:

Anywhere calling is just a download away

Mind the shop without missing calls. Stay connected on your business line wherever you work. And offer a polished presentation to clients and customers by letting them reach you on your business line, wherever

Download the Comcast Business App to take advantage of anywhere calling and all your Voice Mobility features.





In the alternative, on information and belief, since at least the above-mentioned date 85. when Defendant was on notice of its infringement, Defendant has contributorily infringed, under U.S.C. § 271(c), one or more claims of the '101 patent. For example, Defendant contributes to the direct infringement of such claims by distributors, customers, subsidiaries, importers, and/or consumers that use, import, purchase, or sell the '101 Accused Products. To the extent that the '101 Accused Products do not directly infringe one or more claims of the '101 patent, such products contain instructions, such as source code, that are especially adapted to cause the '101 Accused Products to operate in an infringing manner. Such instructions are specifically designed to cause the '101 Accused Products to establish a voice telephone call in an infringing manner and are a material part of the invention of the '101 patent and are not a staple article of commerce suitable for substantial non-infringing use.

- 86. On information and belief, despite having knowledge of the '101 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '101 patent, Defendant has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Defendant's infringing activities relative to the '101 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.
- 87. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

CONCLUSION

- 88. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of Defendant's wrongful acts, and willful infringement, in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.
- 89. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

90. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

- 91. Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:
 - 1. A judgment that Defendant has infringed the Asserted Patents as alleged herein, directly and/or indirectly by way of inducing infringement of such patents;
 - 2. A judgment for an accounting of all damages sustained by Plaintiff as a result of the acts of infringement by Defendant;
 - 3. A judgment and order requiring Defendant to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
 - 4. A judgment and order requiring Defendant to pay Plaintiff pre-judgment and postjudgment interest on the damages awarded;
 - 5. A judgment and order finding this to be an exceptional case and requiring Defendant to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
 - 6. Such other and further relief as the Court deems just and equitable.

Dated: December 18, 2024

Respectfully submitted,

/s/ Patrick J. Conroy

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel who are deemed to have consented to electronic service on December 18, 2024.

/s/ Patrick J. Conroy